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ROTHWELL, FIGG, ERNST & MANBECK, P.C.
1425 K STREET, N.W.
SUITE 800
WASHINGTON, DC 20005

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BROWN, COURTNEY A	

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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/522,097
Filing Date: January 24, 2005
Appellant(s): KIBLER ET AL.

Monica Chin Kitts
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed December 16, 2009 appealing from the Office action mailed April 16, 2009.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

WITHDRAWN REJECTION

The appellant's statement of the grounds of rejection to be reviewed on appeal is substantially correct. The following grounds of rejection are not presented for review on appeal because they have been withdrawn by the examiner. Claims 1, 25,26 and 30-35 were rejection over claims 1, 8, 9, 23, and 26-32 of Application No. 10522157 on the grounds of nonstatutory obviousness-type double patenting. After further consideration and consultation, the Examiner withdraws this rejection.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

CA2334955	Sievernich et al.	12-1999

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims **1, 25, 26 and 30-37** are rejected under 35 U.S.C. 103(a) as being unpatentable over Sievernich et al. (CA 2,334,955).

Applicant's Invention

Applicant claims:

1. (Previously presented) A synergistic herbicidal mixture comprising

A) 4-[2-methyl-3-(4,5-dihydroisoxazol-3-yl)-4-methylsulfonyl-benzoyl]-1-methyl-5-hydroxy-1H-pyrazole or one of its environmentally compatible salts; and

B) clopyralid or one of its environmentally compatible salts; and,

C) at least one herbicidal compound selected from the group consisting of sulfonamide and triazine or their environmentally compatible salts; wherein said sulfonamide is selected from the group consisting of florasulam, flumetsulam and metosulam and said triazine is selected from the group consisting of ametryn, atrazine, cyanazine, desmetryn, dimethamethryn, prometon, prometryn, propazine, simazine, simetryn, terbumeton, terbutryn, terbutylazine and trietazine,

in a synergistically effective amount.

Applicant also claims:

34. (Previously presented) A method of controlling undesired vegetation, comprising applying simultaneously or separately to said vegetation, the environment of said vegetation and/or seeds of said vegetation

A) 4-[2-methyl-3-(4,5-dihydroisoxazol-3-yl)-4-methylsulfonyl-benzoyl]-1-methyl-5-hydroxy-1H-pyrazole

or one of its environmentally compatible salts;

and

B) clopyralid or one of its environmentally compatible salts;

and,

C) at leasst one herbicidal compound selected from the group consisting of sulfonamide and triazine

wherein said sulfonamide is selected from the group consisting of florasulam, flumetsulam and metosulam and said triazine is selected from the group consisting of ametryn, atrazine, cyanazine, desmetryn, dimethamethryn, prometon, prometryn, propazine, simazine, simetryn, terbumeton, terbutryn, terbutylazine and trietazine,

or their environmentally compatible salts;

in a synergistically effective amount.

Determination of the scope and the content of the prior art
(MPEP 2141.01)

Sievernich et al. teach a synergistic herbicidal mixture comprising at least one 3-heteroxyxlyl-substituted benzoyl derivative, or its environmentally compatible salts. Sievernich **teach 4-[2-methyl-3-(4,5-dihydroisoxazol-3-yl-4-methylsulfonyl-benzoyl]-1-methyl-5-hydroxy-1H-pyrazole** as a most particularly preferred 3-heteroxyxlyl-substituted benzoyl derivative (page 20, lines 19-21, claims 1,19, 21, and 34 ,component A of instant application).

Sievernich et al. teach that the said synergistic herbicidal mixture also comprises a synergistically effective amount of at least one herbicidal compound from the group consisting of acetyl-CoA carboxylase inhibitors, acetolactate synthase inhibitors, amides, auxin herbicides, auxin transport inhibitors, carotenoid biosynthesis inhibitors, enolpyruvylshikimate 3-phosphate synthase inhibitors, glutamine synthase inhibitors, lipid biosynthesis inhibitors, mitosis inhibitors, protoporphyrinogen IX oxidase inhibitors, photosynthesis inhibitors, synergists, growth substances, cell wall biosynthesis inhibitors or a variety of other herbicides (page 1, lines 4-40 , page 1a, lines 1-6, page 2, lines 1-6 and claims 1of reference) Specifically, Sievernich et al. teach the use of **flumetsulam** (page 21, line 1, component C of instant application), **clopyralid** (page 21, line14, , component B of instant application), and **atrazine** (page 84, line 29, also component C of instant application).

Sivernich et al. teach, in a further particular embodiment, a synergistic herbicidal mixture comprising as component A, a 3-heteroxyxlyl-substituted benzoyl derivative and as component B, **two herbicidal compounds** (page 34, lines 42-46, a ternary synergistic herbicidal mixture).

Sievernich et al. teach that as a rule, the mixture comprise components A and B in such weight ratios that the synergistic effect takes place(ratios of components A and C of the instant application) in the mixture preferably range from 1:0.002 to 1:800 (page 38, lines 20-24, claim 31 of instant application). Sievernich et al. teach, in particular, teach that the mixture comprises components A and B2 (acetolactate synthase inhibitors) 5-hydroxy-1H-pyrazole,flumestulam or clopyralid ,and a third herbicidal compound are not disclosed or suggested in Sievernich et al.. This is not persuasive because Sivernich et al. does teach, in a further particular embodiment in a weight ratio (ratios of components A and B of the instant application) in the mixture range from 1:0.004 to 1:106 (page 39, lines 13-40, claim 30 of instant application).

Sievernich et al. further teach that the herbicidal compositions have an herbicidally active amount of a synergistic herbicidal mixture and at least one liquid and/or solid carrier and if desired, at least one surfactant (page 2, lines 8-11, claims 32 and 33, solid and/or liquid carrier and surfactant, instant invention).

Sievernich et al. also teach that their invention relates to processes for preparation of said synergistic herbicidal mixtures and to a method of controlling undesirable vegetation (page 2, lines 13-15, claims 33 and 34, process of preparation and method of controlling undesired vegetation of instant application). Sievernich et al. teach that the active ingredients of components A) and B) can be formulated jointly, but also separately, and/or applied to the plants, their environment and/or seeds jointly or separately (page 37, lines 31-33, claim 34, applied to vegetation and/or seeds of instant application). Sievernich et al. teach that it is preferable to apply the active ingredients

simultaneously, but it is possible to apply them separately (page 37, lines 33-35, claim 34, applied simultaneously or in separately of the instant application). Sievernich et al. further teach the mixtures can be applied pre-or post- emergence and that in the case of post-emergence treatment of the plants (page 38, lines 1-2), the herbicidal compositions according to the invention are preferably applied by foliar application (page 38, lines 11-13, claim 35 ,application to leaves, of instant application).

Ascertainment of the difference between the prior art and the claims (MPEP 2141.02)

The difference between the invention of the instant application and that of Sievernich et al. is that the instant invention claims a specific ternary mixture comprising A.) **4-[2-methyl-3-(4,5-dihydroisoxazol-3-yl-4-methylsulfonyl-benzoyl]-1-methyl-5-hydroxy-1H-pyrazole;** B.) **clopyralid;** and C.) **flumetsulam** or **atrazine**

Finding of prima facie obviousness

Rationale and Motivation (MPEP 2142-2143)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Sievernich et al. to arrive at a synergistic herbicidal mixture comprising A.) **4-[2-methyl-3-(4,5-dihydroisoxazol-3-yl-4-methylsulfonyl-**

benzoyl]-1-methyl-5-hydroxy-1H-pyrazole; B.) **clopyralid;** and C.) **flumetsulam** or **atrazine.** It would be obvious to one of ordinary skill in the art to devise a synergistic herbicidal mixture comprising these components because Sievernich teach a synergistic combination of component A with component B as well as a synergistic combination of components A and C. Further, Sivernich et al. teach, in a further particular embodiment, a synergistic herbicidal mixture comprising as component A, a 3-heteroxyxlyl-substituted benzoyl derivative and as component B, **two herbicidal compounds** (page 34, lines 42-46). Therefore, Sivernich suggests the use of a **ternary** synergistic herbicidal mixture.

One would be motivated to make this combination with the expected benefit of having a taught synergistic herbicidal mixture with enhanced effectiveness, depending on the third component being used. A composition that consists of the same components will possess the same properties and therefore lead to identical, desired results.

In light of the forgoing discussion, the Examiner concludes that the subject matter defined by the instant claims would have been obvious within the meaning of 35 USC 103(a).

From the teachings of the references, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention. Therefore, the invention as a whole was *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

(10) Response to Arguments

Appellant asserts that there are several significant differences between Sievernich et. al. and the present invention:

(1) Appellant asserts that Sievernich only generically discloses binary mixtures comprising 4-[2- methyl-3-(4,5- dihydroisoxazol-3-yl)-4-methylsulfonyl- benzoyl]-l-methyl-5- hydroxy-lH-pyrazole and clopyralid. Appellant asserts that 4-[2-methyl-3-(4,5-dihydroisoxazol-3-yl)- 4-methylsulfonyl- benzoyl]-l-methyl-5-hydroxy-1 H-pyrazole is covered by its generic formula and that clopyralid is mentioned in a long list of coequal active ingredients.

Respectfully, the Examiner cannot agree. Appellant's arguments are not persuasive because obviousness is established by combining or modifying the teachings of the prior art as a whole to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the reference. Sievernich et al. teach a synergistic combination of component A with component B (clopyralid) as well as a synergistic combination of components A and C (flumetsulam or atrazine). Sivernich et al. teach, in a further particular embodiment, a synergistic herbicidal mixture comprising as component A, a 3-heteroxyxlyl-substituted benzoyl derivative and as component B, two herbicidal compounds (page 34, lines 42-46) which suggests the use of a ternary herbicidal combination. Appellant's arguments are not persuasive because Sievernich et al. specifically claim a synergistic mixture with

components clopyralid and flumetsulam selected from a group of about 28 different herbicidal compounds (see page 88 and claim 14 of reference). Thus, this specific claimed group is very narrow in range and it would therefore be easy and common for one of ordinary skill to arrive at a synergistic mixture comprising clopyralid and flumetsulam. Sievernich et al. additionally teach 4-[2-methyl-3-(4,5-dihydroisoxazol-3-yl-4-methylsulfonyl-benzoyl]-1-methyl-5-hydroxy-1H-pyrazole as a most particularly preferred 3-heterocyclyl-substituted benzoyl derivative (page 20, lines 19-21, claims 1,9 and 16-26, and 31 ,component A of instant application). Accordingly, in view of the teaching of Sievernich et. al. and the knowledge generally available to the ordinarily skilled artisan, it is apparent that such individual would have been motivated to modify the teaching of Sievernich et. al. in the manner of Applicant to arrive at the claimed invention.

(2) Appellant asserts that the only specific examples disclosed by Sievernich proving a synergistic effect of a binary mixture comprising a 3-heterocyclyl-substituted benzoyl- derivative and a herbicide selected from group B4 employ 4-[2-chloro-3-(4,5-dihydroisoxazol-3-yl)-4-methylsulfonyl- benzoyl]-I-methyl-S-hydroxyl H- pyrazole and 2,4-D, different compounds than components A) and B) of the present invention. Appellant also argues that not a single ternary mixture is exemplified by Sievernich comprising clopyralid.

Respectfully, the Examiner cannot agree. Appellant's argument's are not persuasive because obviousness is established by combining or modifying the teachings of the prior art as a whole to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the reference. As stated in the previous argument, Sievernich et al. teach a synergistic combination of component A with component B (clopyralid) as well as a synergistic combination of components A and C (flumetsulam or atrazine). In a further particular embodiment, Sivernich et al. do teach a synergistic herbicidal mixture comprising as component A, a 3-heteroxyxlyl-substituted benzoyl derivative and as component B, two herbicidal compounds (page 34, lines 42-46) which suggests the use of a ternary herbicidal combination. Thus all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

(3) Appellant argues that Sievernich does not describe or suggest a second synergistic effect which boosts the already present synergistic effect between the two main active ingredients. Appellant points to the data submitted in the response filed on August 17, 2009 which was re-organized according to plant species, concentration of active ingredients, and components C). Appellant asserts that the synergistic effect of the third component on top of the binary mixture's activity can unequivocally be

observed and concludes that this overview clearly confirms the inventive concept that the addition of a sulfonamide or a triazine (third component) to a mixture comprising as component A) 4-[2-methyl-3-(4,5-dihydroisoxazol-3- yl)-4-methylsuffonyl- benzoyl]-l-methyl-5-hydroxy-lH-pyrazole and as component B) clopyralid results in a synergistic effect, which is independent from the synergistic effect that is achieved from combining component A) 4-[2-methyl-3-(4,5-dihydroisoxazol-3-yl)-4-methylsulfonyl- benzoyl]-l-methyl-5-hydroxy-1 H pyrazole and as component B) clopyralid.

Respectfully, the Examiner cannot agree. With regards to the "second synergistic effect which boosts the already present synergistic effect between the two main active ingredients", it is noted that the features upon which applicant relies (i.e., a second synergistic effect) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See In re Van Geuns, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Sievernich et al. teach a synergistic combination of component A with component B (clopyralid) as well as a synergistic combination of components A and C (flumetsulam or atrazine). Sivernich et al. do teach, in a further particular embodiment, a synergistic herbicidal mixture comprising as component A, a 3-heteroxyxlyl-substituted benzoyl derivative and as component B, two herbicidal compounds (page 34, lines 42-46) which suggests the use of a ternary herbicidal combination. Appellant's arguments are not persuasive because Sievernich et al. do specifically teach a synergistic mixture with the compounds clopyralid and flumetsulam,

which are selected from a group of about 28 different herbicidal compounds (see page 88, claim 14 of reference). Thus, this specific claimed group is very narrow in range and it would therefore be easy and common for one of ordinary skill to arrive at a synergistic mixture comprising clopyralid and flumetsulam. Accordingly, in view of the teaching of Sievernich et. al. and the knowledge generally available to the ordinarily skilled artisan, it is apparent that such individual would have been motivated to modify the teaching of Sievernich et. al. in the manner of Applicant to arrive at the claimed invention.

Appellant has argued synergy. However, a synergistic combination of 4-[2-methyl-3-(4,5-dihydroisoxazol-3-yl-4-methylsulfonyl-benzoyl]-1-methyl-5-hydroxy-1H-pyrazole, and at least two herbicidal compounds selected from imazapyr, imazaquin, imazamethabenz, and imazethapyr, and a fourth herbicidal compound is disclosed or suggested by Sievernich et al.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Johann R. Richter/

Supervisory Patent Examiner, Art Unit 1616

Conferees:

/COURTNEY BROWN/
Examiner, Art Unit 1616

/SREENI PADMANABHAN/
Supervisory Patent Examiner, Art Unit 1627